

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Estrogen receptor activity *in vivo*

ArticleInfo		
ArticleID	:	4665
ArticleDOI	:	10.1186/gb-spotlight-20021224-01
ArticleCitationID	:	spotlight-20021224-01
ArticleSequenceNumber	:	331
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2002-12-24 OnlineDate : 2002-12-24
ArticleCopyright	:	BioMed Central Ltd2002
ArticleGrants	:	
ArticleContext	:	130593311

Jonathan Weitzman

Email: jonathanweitzman@hotmail.com

Estrogen receptors (ERs) are ligand-induced transcription factors. In an Advanced Online Publication in *Nature Medicine* Ciana *et al.* report their study of a transgenic mouse strain designed to follow ER activity *in vivo* (*Nature Medicine*, 16 December 2002, DOI:10.1038/nm809). The ERE-luc mice express a luciferase reporter gene under the control of an estrogen-responsive element, and the luciferase, can be monitored by injection of the substrate luciferine followed by bioluminescence measurements using a cooled charged device camera. A peak of luciferase activity was detected at proestrus in ovaries and liver, corresponding with high levels of circulating estradiol. Other tissues and non-reproductive organs had a peak at diestrus. Also, Ciana *et al.* found evidence for ER activity in immature mice before gonadal production. This model will be important for dissecting ER activation pathways that are dependent on, or independent of ligand, particularly in light of the use of estrogens in hormone-replacement therapies.

References

1. Nuclear receptor coactivators - an update
2. *Nature Medicine*, [<http://www.nature.com/naturemedicine>]
3. Engineering of a mouse for the *in vivo* profiling of estrogen receptor activity.